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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/767,415	01/28/2004	Kuo Yi-Lung	23724-07791	2851

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EXAMINER	
HOFFBERG, ROBERT JOSEPH	
ART UNIT	**PAPER NUMBER**
2835	

DATE MAILED: 11/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/767,415	YI-LUNG ET AL.	
	Examiner	Art Unit	
	Robert J. Hoffberg	2835	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 October 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4 and 7-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4 and 7-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _____ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *10/24/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Detailed Action

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 7-9 are rejected under 35 U.S.C. 102(e) as being anticipated by Rodriguez et al. (US 6,704,196).

With respect to Claims 7 – 9, Rodriguez et al. teaches an apparatus for cooling components on a motherboard of a personal computer, the apparatus comprising: a motherboard (see Fig. 1, CPU and Memory cards) containing a plurality of electronic components (see Fig. 1 CPU and memory) that generate heat (Col. 1, line 64) during operation, a high-heat subset (Col. 3, line 14) of the electrical components generating a relatively high amount of heat (Col. 3, lines 14-15 heat critical) and a low-heat subset (Col. 3, lines 10-11) of the electrical components generating a relatively low amount of heat (Col. 3, lines 10-11 less heat critical), and a chassis (Fig.1, #102) covering the motherboard and including a plurality of air outlets (see Fig. 1), wherein the air outlets are located closer to (see Fig. 1) the low-heat electrical components than to the high-heat electronic components, thereby generally directing heated exhaust air out of the chassis near the low-heat electrical components instead of near the high-heat electrical

components; a fan (see Fig. 1) mechanically coupled to the chassis and configured to direct an airflow (see Fig. 1) into the chassis to cool (Col. 1, lines 60-61) the electronic components on the motherboard. Rodriguez et al. further teaches wherein the fan is mounted on a wall (see Fig. 1) of the computer chassis. Rodriguez et al. further teaches a CPU mounted on the motherboard, wherein the fan is configured to blow air directly towards (Col. 3, lines 14-17) the CPU.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-4 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rodriguez et al. (US 6,704,196) in view of Osborn et al. (US 6,034,870).

With respect to Claim 1 and 3, Rodriguez et al. teaches a cooling system for a personal computer, the cooling system comprising: a computer chassis (Fig.1, #102); a motherboard (see Fig. 1, CPU and Memory cards) mounted inside the computer chassis, the motherboard for coupling a number of electronic components (see Fig. 1 CPU and memory) that generate heat (Col. 1, line 64) during operation, and a fan (see Fig. 1) mechanically coupled to the computer chassis and configured to direct an airflow (see Fig. 1) through the fan, the air flow cooling (Col. 1, lines 60-62) the electronic components; wherein the computer chassis includes a plurality of air outlets (see Fig. 1) located far (see Fig. 1) from electronic components on the motherboard that generate a

relatively large amount of heat (Col. 1, lines 60-61), thereby avoiding a hotter air flow near those components, and located near electrical components (see Fig.1 and Col. 1, line 61 memory) on the motherboard for which less heat dissipation (Col. 3, lines 10-11) is desired, thereby causing a hotter air flow (Col. 1, line 64) near those components. Rodriguez does not teach the airflow from outside the computer chassis to inside the computer chassis through the fan. Osborn et al. teaches the airflow (Fig. 3, #38) through the fan (Fig. 3, #36) from outside the computer chassis (Fig. 3, #12) to inside the computer chassis. Osborn et al. further teaches a motherboard (see Fig. 3) with a socket for receiving a CPU (Fig. 3, # 32); wherein the fan is configured to blow air directly towards (Fig. 3, #44) the socket from outside the computer chassis. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the system of Rodriguez et al. with that of Osborn et al. for the purpose of drawing air into the chassis close to where the most heat sensitive components including the CPU are located.

With respect to Claim 2, Rodriguez et al. further teaches wherein the fan is mounted on a wall (see Fig. 1) of the computer chassis.

With respect to Claim 4 and 10, Rodriguez et al. in view of Osborn et al. teaches the system and apparatus of claims 1 and 7, respectively above. Rodriguez et al. does not teach a filter. Osborn et al. teaches a filter (Fig. 3, #42) mounted in a path of an airflow (Fig. 3, #38) from the fan, the filter for removing particles from air outside the computer chassis before being blown inside the computer chassis. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify

the system of Rodriguez et al. with that of Osborne et al. for the purpose of filtering the airflow to keep dust from inside the computer chassis.

Response to Arguments

Applicant's arguments with respect to claims 1-4 have been considered but are moot in view of the new ground(s) of rejection.

Applicant states in his application that the components that generate a relatively large amount of heat should avoid hotter air and components for which less heat dissipation near the hotter flow exiting the air outlets. Applicant teaches electrical components that generate high and low amounts heat, but argues without teaching that this means components that require more and less heat dissipation respectively. The applicant points out in his arguments, the desired airflow for cooling is sequenced starting from the air inlets, first passing over the electronic components desiring greater heat dissipation (for higher heat sensitive components termed as high-heat electrical components by the applicant), then passing over the components desiring less heat dissipation (for lower heat sensitive components termed as low-heat electrical components by the applicant) and finally exiting through the air outlets. Johnson et al. (US 5,860,291) and Rodriguez et al. (US 6,704,196) teach this airflow path.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Johnson et al. (US 5,860,291) teaches that critical heat producing components are placed in proximity to the air inlets and to reduce the cooling of components that are insensitive to heat.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert J. Hoffberg whose telephone number is (571) 272-2761. The examiner can normally be reached on 8:30 AM - 4:30 PM Mon - Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn D. Feild can be reached on (571) 272-2092. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RJH

LYNN FEILD
SUPERVISORY PATENT EXAMINER
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